

in which:

R₁, R₂ and R₃, which may be identical or different, are each chosen from a hydrogen atom; a halogen atom; a group Z; a (C₁-C₆ alkyl)carbonyl radical; an amino(C₁-C₆ alkyl)carbonyl radical; an N-Z-amino(C₁-C₆ alkyl)carbonyl radical; an N-(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical; an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical; an amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; an N-Z-amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; an N-(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; a carboxyl radical; a (C₁-C₆ alkyl)carboxyl radical; a (C₁-C₆ alkyl)sulphonyl radical; an aminosulphonyl radical; an N-Z-aminosulphonyl radical; an N-(C₁-C₆ alkyl)aminosulphonyl radical; an N,N-di(C₁-C₆ alkyl)aminosulphonyl radical; an aminosulphonyl(C₁-C₆ alkyl) radical; an N-Z-aminosulphonyl(C₁-C₆ alkyl) radical; an N-(C₁-C₆ alkyl)aminosulphonyl(C₁-C₆ alkyl) radical; an N,N-di(C₁-C₆ alkyl)aminosulphonyl(C₁-C₆ alkyl) radical; a carbamyl radical; an N-(C₁-C₆ alkyl)carbamyl radical; an N,N-di(C₁-C₆ alkyl)carbamyl radical; a carbamyl(C₁-C₆ alkyl) radical; an N-(C₁-C₆ alkyl)carbamyl(C₁-C₆ alkyl) radical; an N,N-di(C₁-C₆ alkyl)carbamyl(C₁-C₆ alkyl) radical; a C₁-C₆ alkyl radical; a hydroxyl radical; a nitro radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; a C₁-C₆ trifluoroalkyl radical; a cyano radical; a group OR₆; a

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group SR₆; an amino radical; an N-(C₁-C₆ alkyl)amino radical; an N,N-di(C₁-C₆ alkyl)amino radical, wherein the two alkyl substituents may form a ring chosen from 5- and 6-membered rings; an N-hydroxy(C₁-C₆ alkyl)amino radical; an N,N-bis(hydroxy(C₁-C₆ alkyl))amino radical; an N-polyhydroxy(C₂-C₆ alkyl)amino radical; an N,N-bis(polyhydroxy(C₂-C₆ alkyl))amino radical; an amino(C₁-C₆ alkyl)amino radical, in which the terminal amino group is unsubstituted or substituted by one or two C₁-C₆ alkyl radicals, where the alkyl radicals may form a ring chosen from saturated and unsaturated 5- and 6-membered rings; an amino group protected by at least one group chosen from a (C₁-C₆ alkyl)carbonyl, a trifluoro(C₁-C₆ alkyl)carbonyl, an amino(C₁-C₆ alkyl)carbonyl, an N-Z-amino(C₁-C₆ alkyl)carbonyl, an N-(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl, an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical, an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl) formyl radical, and a group Z;

R₆ is chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a group Z; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ carboxyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ carbamylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-C₆ trifluoroalkyl radical; a C₁-C₆ aminosulphonylalkyl radical; a C₁-C₆ N-Z-aminosulphonylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)aminosulphonylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)aminosulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphinyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carbonylalkyl radical; a C₁-C₆ aminoalkyl radical; a C₁-C₆ aminoalkyl radical whose amine is substituted by one or two radicals chosen from C₁-C₆ alkyl, monohydroxy(C₁-C₆ alkyl), polyhydroxy(C₂-C₆ alkyl),

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(C₁-C₆ alkyl)carbonyl, formyl, trifluoro(C₁-C₆ alkyl)carbonyl, and (C₁-C₆ alkyl)sulphonyl radicals, and a group Z;

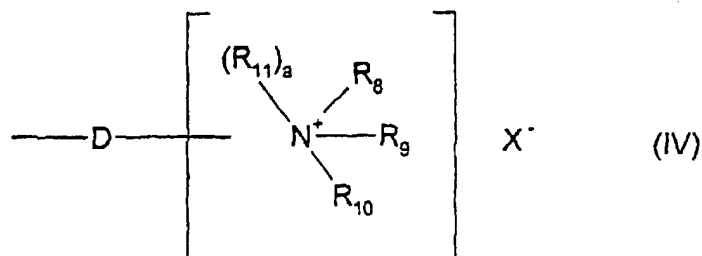
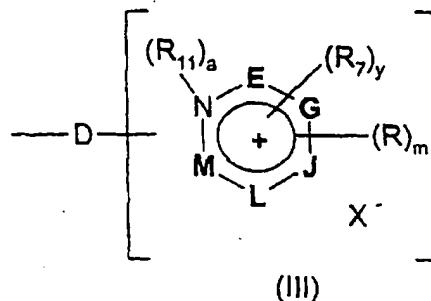
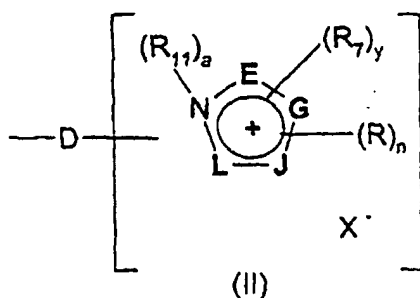
A is chosen from -NR₄R₅ and a hydroxyl radical;

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R₄ and R₅, are independently chosen from a hydrogen atom; a group Z; a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ carbamylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-C₆ thiocarbamylalkyl radical; a C₁-C₆ trifluoroalkyl radical; a C₁-C₆ sulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphonylalkyl radical; a C₁-C₆ aminosulphonylalkyl radical; a C₁-C₆ N-Z-aminosulphonylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)-aminosulphonylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)aminosulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carbonylalkyl radical; a C₁-C₆ aminoalkyl radical; and a C₁-C₆ aminoalkyl radical whose amine is substituted by one or two radicals chosen from C₁-C₆ alkyl, C₁-C₆ monohydroxyalkyl, C₂-C₆ polyhydroxyalkyl, (C₁-C₆ alkyl)carbonyl, (C₁-alkyl)sulphonyl, formyl, and trifluoro(C₁-C₆ alkyl)carbonyl radicals, and a group Z;

wherein one and only one of the radicals R₄ and R₅ may also be chosen from a (C₁-C₆ alkyl)carbonyl radical; a formyl radical; a trifluoro(C₁-C₆ alkyl)carbonyl radical; an amino(C₁-C₆ alkyl)carbonyl radical; an N-Z-amino(C₁-C₆ alkyl)carbonyl radical; an N-(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical; and an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical;

Z is chosen from the unsaturated cationic groups of formulae (II) and (III) below and the saturated cationic groups of formula (IV) below:



in which:

D is a linker which is chosen from linear and branched alkyl chains and may be interrupted by at least one heteroatom atom and may be substituted by at least one of a hydroxyl and a C₁-C₆ alkoxy radical, and may carry at least one ketone function;

the ring members E, G, J, L and M, which are identical or different, are chosen from carbon, oxygen, sulphur and nitrogen atoms;

n is an integer ranging from 0 to 4;

m is an integer ranging from 0 to 5;

the radicals R, which are identical or different, may be chosen from a group Z; a halogen atom; a hydroxyl radical; a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a nitro radical; a cyano radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ alkoxy radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; an amido radical; an aldehydo radical; a carboxyl radical; a C₁-C₆ alkylcarbonyl radical; a thio radical; a C₁-C₆ thioalkyl radical; a (C₁-C₆ alkyl)thio radical; an amino radical; an

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amino radical protected by a group chosen from (C₁-C₆ alkyl)carbonyl, carbamyl, and (C₁-C₆ alkyl)sulphonyl; and groups NHR" and NR"R'" in which R" and R'", which are identical or different, are chosen from a C₁-C₆ alkyl radical, a C₁-C₆ monohydroxyalkyl radical and a C₂-C₆ polyhydroxyalkyl radical;

R₇ is chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; a carbamyl(C₁-C₆ alkyl) radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a benzyl radical; and a group Z;

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R₈, R₉ and R₁₀, which are identical or different, are chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; a C₁-C₆ cyanoalkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ amidoalkyl radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; and a C₁-C₆ aminoalkyl radical whose amine is protected by at least one of a (C₁-C₆ alkyl)carbonyl, amido, carboxyl and (C₁-C₆ alkyl)sulphonyl radical;

two of the radicals R₈, R₉ and R₁₀ may form, together with the nitrogen to which they are attached, a ring chosen from saturated 5- and 6-membered carbon-containing rings which may contain at least one heteroatom, wherein said rings may contain a substituent chosen from a halogen atom; a hydroxyl radical; a C₁-C₆ alkyl radical, a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a nitro radical; a cyano radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ alkoxy radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; an amido radical; an aldehydo radical; a carboxyl radical; a C₁-C₆ ketoalkyl radical; a thio radical; a C₁-C₆ thioalkyl radical; a (C₁-C₆ alkyl)thio radical; an

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amino radical; and an amino radical protected by a group chosen from (C₁-C₆ alkyl)carbonyl; carbamyl and (C₁-C₆ alkyl)sulphonyl radical;

one of the radicals R₈, R₉ and R₁₀ may be chosen from a second group Z, identical to or different from the first group Z;

R₁₁ may be chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ aminoalkyl radical; a C₁-C₆ aminoalkyl radical whose amine is protected by at least one of a (C₁-C₆ alkyl)carbonyl, a carbamyl, and a (C₁-C₆ alkyl)sulphonyl radical; a C₁-C₆ carboxyalkyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ carbamylalkyl radical; a C₁-C₆ trifluoroalkyl radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; a C₁-C₆ sulphonamidoalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphinyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)ketoalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)carbamylalkyl radical; and a C₁-C₆ N-(C₁-C₆ alkyl)sulphonamidoalkyl radical;

a and y are integers equal to 0 or 1; with the following conditions:

- in the unsaturated cationic groups of formula (II):
 - when a = 0, the linker D is attached to the nitrogen atom,
 - when a = 1, the linker D is attached to one of the ring members E, G, J or L,
 - y can adopt the value 1 only
 - 1) when the ring members E, G, J and L are simultaneously a carbon atom and when the radical R₇ is carried by the nitrogen atom of the unsaturated ring; or

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- 2) when at least one of the ring members E, G, J and L is chosen from a nitrogen atom to which the radical R_7 is attached;
- in the unsaturated cationic groups of formula (III):
 - when $a = 0$, the linker D is attached to the nitrogen atom,
 - when $a = 1$, the linker D is attached to one of the ring members E, G, J, L or M,
 - y can adopt the value 1 only
 - 1) when at least one of the ring members E, G, J, L and M is chosen from a divalent atom and
 - 2) when the radical R_7 is carried by the nitrogen atom of the unsaturated ring;
 - in the saturated cationic groups of formula (IV):
 - when $a = 0$, then the linker D is attached to the nitrogen atom which carries the radicals R_8 to R_{10} ,
 - when $a = 1$, then two of the radicals R_8 to R_{10} , together with the nitrogen atom to which they are attached, form a ring chosen from 5- and 6-membered saturated rings, and the linker D is carried by a carbon atom of the said ring;
- X^- is chosen from monovalent and divalent anions;
- with the proviso that at least one of R_1 , R_2 and R_3 is a group Z.

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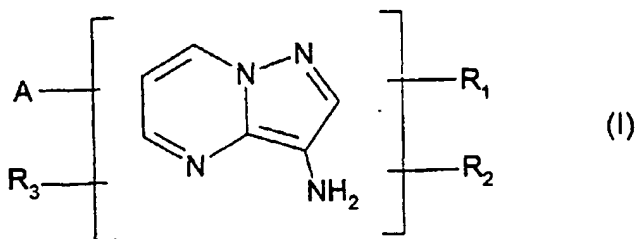
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31. (Amended) At least one chemical according to Claim 30 chosen from:

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- 3-[3-(3-amino-5-methylpyrazolo[1,5-a]pyrimidin-7-ylamino)propyl]-1-(2-hydroxyethyl)-3H-imidazol-1-ium chloride,
 - 3-(3-amino-7-hydroxy-5-methyl pyrazolo[1,5-a]pyrimidin-6-ylmethyl)-1-methylpyridinium methyl sulphate,
 - 3-(3-amino-7-hydroxy-5-methylpyrazolo[1,5-a]pyrimidin-6-ylmethyl)-1-(2-hydroxyethyl)pyridinium chloride,
 - 4-[3-(3-amino-5-methyl pyrazolo[1,5-a]pyrimidin-7-ylamino)propyl]-4-methylmorpholin-4-ium chloride,
 - 4-[3-(3-amino-5-methyl pyrazolo[1,5-a]pyrimidin-7-ylamino)propyl]-4-methylmorpholin-4-ium methyl sulphate,

and the acid-addition salts thereof.

B3 35. (Amended) A composition for the oxidation dyeing of keratinous fibers, comprising, in a medium suitable for dyeing, at least one oxidation base chosen from compounds of formula (I) and acid addition salts thereof:



in which:

R₁, R₂ and R₃, which may be identical or different, are each chosen from a hydrogen atom; a halogen atom; a group Z; a (C₁-C₆ alkyl)carbonyl radical; an

amino(C₁-C₆ alkyl)carbonyl radical; an N-Z-amino(C₁-C₆ alkyl)carbonyl radical; an N-(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical; an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical; an amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; an N-Z-amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; an N-(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; a carboxyl radical; a (C₁-C₆ alkyl)carboxyl radical; a (C₁-C₆ alkyl)sulphonyl radical; an aminosulphonyl radical; an N-Z-aminosulphonyl radical; an N-(C₁-C₆ alkyl)aminosulphonyl radical; an N,N-di(C₁-C₆ alkyl)aminosulphonyl radical; an aminosulphonyl(C₁-C₆ alkyl) radical; an N-Z-aminosulphonyl(C₁-C₆ alkyl) radical; an N-(C₁-C₆ alkyl)aminosulphonyl(C₁-C₆ alkyl) radical; an N,N-di(C₁-C₆ alkyl)aminosulphonyl(C₁-C₆ alkyl) radical; a carbamyl radical; an N-(C₁-C₆ alkyl)carbamyl radical; an N,N-di(C₁-C₆ alkyl)carbamyl radical; a carbamyl(C₁-C₆ alkyl) radical; an N-(C₁-C₆ alkyl)carbamyl(C₁-C₆ alkyl) radical; an N,N-di(C₁-C₆ alkyl)carbamyl(C₁-C₆ alkyl) radical; a C₁-C₆ alkyl radical; a hydroxyl radical; a nitro radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; a C₁-C₆ trifluoroalkyl radical; a cyano radical; a group OR₆; a group SR₆; an amino radical; an N-(C₁-C₆ alkyl)amino radical; an N,N-di(C₁-C₆ alkyl)amino radical, wherein the two alkyl substituents may form a ring chosen from 5- and 6-membered rings; an N-hydroxy(C₁-C₆ alkyl)amino radical; an N,N-bis(hydroxy(C₁-C₆ alkyl))amino radical; an N-polyhydroxy(C₂-C₆ alkyl)amino radical; an N,N-bis(polyhydroxy(C₂-C₆ alkyl))amino radical; an amino(C₁-C₆ alkyl)amino radical, in which the terminal amino group is unsubstituted or substituted by one or two C₁-C₆ alkyl radicals, where the alkyl radicals may form a ring chosen from saturated and

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unsaturated 5- and 6-membered rings; an amino group protected by at least one group chosen from a (C₁-C₆ alkyl)carbonyl, a trifluoro(C₁-C₆ alkyl)carbonyl, an amino(C₁-C₆ alkyl)carbonyl, an N-Z-amino(C₁-C₆ alkyl)carbonyl, an N-(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl, an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical, an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl) formyl radical, and a group Z;

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R₆ is chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a group Z; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ carboxyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ carbamylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-C₆ trifluoroalkyl radical; a C₁-C₆ aminosulphonylalkyl radical; a C₁-C₆ N-Z-aminosulphonylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)aminosulphonylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)aminosulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphinyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carbonylalkyl radical; a C₁-C₆ aminoalkyl radical; a C₁-C₆ aminoalkyl radical whose amine is substituted by one or two radicals chosen from C₁-C₆ alkyl, monohydroxy(C₁-C₆ alkyl), polyhydroxy(C₂-C₆ alkyl), (C₁-C₆ alkyl)carbonyl, formyl, trifluoro(C₁-C₆ alkyl)carbonyl, and (C₁-C₆ alkyl)sulphonyl radicals, and a group Z;

A is chosen from -NR₄R₅ and a hydroxyl radical;

R₄ and R₅, are independently chosen from a hydrogen atom; a group Z; a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ carbamylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-

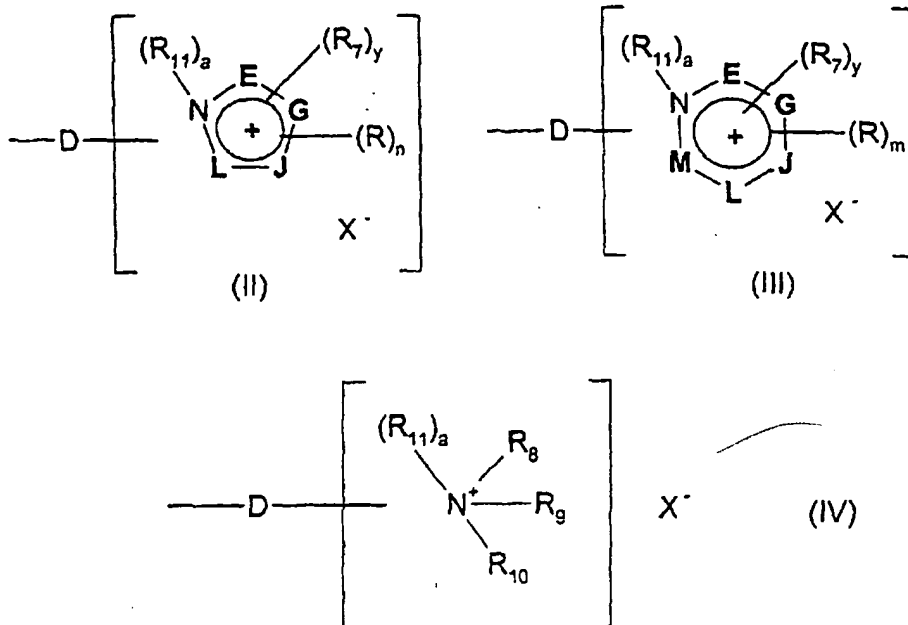
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C6 N,N-di(C1-C6 alkyl)carbamylalkyl radical; a C1-C6 thiocarbamylalkyl radical; a C1-C6 trifluoroalkyl radical; a C1-C6 sulphoalkyl radical; a C1-C6 (C1-C6 alkyl)carboxyalkyl radical; a C1-C6 (C1-C6 alkyl)sulphinyalkyl radical; a C1-C6 aminosulphonylalkyl radical; a C1-C6 N-Z-aminosulphonylalkyl radical; a C1-C6 N-(C1-C6 alkyl)-aminosulphonylalkyl radical; a C1-C6 N,N-di(C1-C6 alkyl)aminosulphonylalkyl radical; a C1-C6 (C1-C6 alkyl)carbonylalkyl radical; a C1-C6 aminoalkyl radical; and a C1-C6 aminoalkyl radical whose amine is substituted by one or two radicals chosen from C1-C6 alkyl, C1-C6 monohydroxyalkyl, C2-C6 polyhydroxyalkyl, (C1-C6 alkyl)carbonyl, (C1-alkyl)sulphonyl, formyl, and trifluoro(C1-C6 alkyl)carbonyl radicals, and a group Z;

wherein one and only one of the radicals R4 and R5 may also be chosen from a (C1-C6 alkyl)carbonyl radical; a formyl radical; a trifluoro(C1-C6 alkyl)carbonyl radical; an amino(C1-C6 alkyl)carbonyl radical; an N-Z-amino(C1-C6 alkyl)carbonyl radical; an N-(C1-C6 alkyl)amino(C1-C6 alkyl)carbonyl radical; and an N,N-di(C1-C6 alkyl)amino(C1-C6 alkyl)carbonyl radical;

Z is chosen from the unsaturated cationic groups of formulae (II) and (III) below and the saturated cationic groups of formula (IV) below:

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in which:

D is a linker which is chosen from linear and branched alkyl chains and may be interrupted by at least one heteroatom atom and may be substituted by at least one of a hydroxyl and a C_1 - C_6 alkoxy radical, and may carry at least one ketone function;

the ring members E, G, J, L and M, which are identical or different, are chosen from carbon, oxygen, sulphur and nitrogen atoms;

n is an integer ranging from 0 to 4;

m is an integer ranging from 0 to 5;

the radicals R, which are identical or different, may be chosen from a group Z; a halogen atom; a hydroxyl radical; a C_1 - C_6 alkyl radical; a C_1 - C_6 monohydroxyalkyl radical; a C_2 - C_6 polyhydroxyalkyl radical; a nitro radical; a cyano radical; a C_1 - C_6 cyanoalkyl radical; a C_1 - C_6 alkoxy radical; a C_1 - C_6 tri(C_1 - C_6 alkyl)silanealkyl radical; an amido radical; an aldehydo radical; a carboxyl radical; a C_1 - C_6 alkylcarbonyl radical; a thio radical; a C_1 - C_6 thioalkyl radical; a (C_1 - C_6 alkyl)thio radical; an amino radical; an

amino radical protected by a group chosen from (C₁-C₆ alkyl)carbonyl, carbamyl, and (C₁-C₆ alkyl)sulphonyl; and groups NHR'' and NR''R''' in which R'' and R''', which are identical or different, are chosen from a C₁-C₆ alkyl radical, a C₁-C₆ monohydroxyalkyl radical and a C₂-C₆ polyhydroxyalkyl radical;

R₇ is chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; a carbamyl(C₁-C₆ alkyl) radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a benzyl radical; and a group Z;

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R₈, R₉ and R₁₀, which are identical or different, are chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; a C₁-C₆ cyanoalkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ amidoalkyl radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; and a C₁-C₆ aminoalkyl radical whose amine is protected by at least one of a (C₁-C₆ alkyl)carbonyl, amido, carboxyl and (C₁-C₆ alkyl)sulphonyl radical;

two of the radicals R₈, R₉ and R₁₀ may form, together with the nitrogen to which they are attached, a ring chosen from saturated 5- and 6-membered carbon-containing rings which may contain at least one heteroatom, wherein said rings may contain a substituent chosen from a halogen atom; a hydroxyl radical; a C₁-C₆ alkyl radical, a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a nitro radical; a cyano radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ alkoxy radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; an amido radical; an aldehydo radical; a carboxyl radical; a C₁-C₆ ketoalkyl radical; a thio radical; a C₁-C₆ thioalkyl radical; a (C₁-C₆ alkyl)thio radical; an

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amino radical; and an amino radical protected by a group chosen from (C₁-C₆ alkyl)carbonyl; carbamyl and (C₁-C₆ alkyl)sulphonyl radical;

one of the radicals R₈, R₉ and R₁₀ may be chosen from a second group Z, identical to or different from the first group Z;

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R₁₁ may be chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ aminoalkyl radical; a C₁-C₆ aminoalkyl radical whose amine is protected by at least one of a (C₁-C₆ alkyl)carbonyl, a carbamyl, and a (C₁-C₆ alkyl)sulphonyl radical; a C₁-C₆ carboxyalkyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ carbamylalkyl radical; a C₁-C₆ trifluoroalkyl radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; a C₁-C₆ sulphonamidoalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphinyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)ketoalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)carbamylalkyl radical; and a C₁-C₆ N-(C₁-C₆ alkyl)sulphonamidoalkyl radical;

a and y are integers equal to 0 or 1; with the following conditions:

- in the unsaturated cationic groups of formula (II):
 - when a = 0, the linker D is attached to the nitrogen atom,
 - when a = 1, the linker D is attached to one of the ring members E, G, J or L,
 - y can adopt the value 1 only
 - 1) when the ring members E, G, J and L are simultaneously a carbon atom and when the radical R₇ is carried by the nitrogen atom of the unsaturated ring; or

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- 2) when at least one of the ring members E, G, J and L is chosen from a nitrogen atom to which the radical R_7 is attached;
- in the unsaturated cationic groups of formula (III):
 - when $a = 0$, the linker D is attached to the nitrogen atom,
 - when $a = 1$, the linker D is attached to one of the ring members E, G, J, L or M,
 - y can adopt the value 1 only
 - 1) when at least one of the ring members E, G, J, L and M is chosen from a divalent atom and
 - 2) when the radical R_7 is carried by the nitrogen atom of the unsaturated ring;
 - in the saturated cationic groups of formula (IV):
 - when $a = 0$, then the linker D is attached to the nitrogen atom which carries the radicals R_8 to R_{10} ,
 - when $a = 1$, then two of the radicals R_8 to R_{10} , together with the nitrogen atom to which they are attached, form a ring chosen from 5- and 6-membered saturated rings, and the linker D is carried by a carbon atom of the said ring;

X^- is chosen from monovalent and divalent anions;

with the proviso that at least one of R_1 , R_2 and R_3 is a group Z.

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A method for dyeing keratinous fibers comprising
applying a dyeing composition to said keratinous fibers, and

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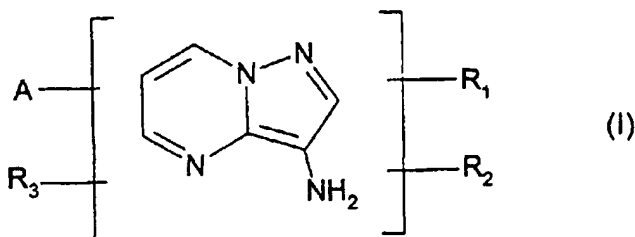
developing color with the aid of at least one oxidizing agent,

wherein said at least one oxidizing agent is added to the dyeing composition at the time of application or which is present in an oxidizing composition which is applied simultaneously with said dyeing composition, either sequentially or separately,

wherein said dyeing composition comprises, in a medium suitable for dyeing,

at least one oxidation base chosen from compounds of formula (I) and acid

addition salts thereof:



in which:

R₁, R₂ and R₃, which may be identical or different, are each chosen from a hydrogen atom; a halogen atom; a group Z; a (C₁-C₆ alkyl)carbonyl radical; an amino(C₁-C₆ alkyl)carbonyl radical; an N-Z-amino(C₁-C₆ alkyl)carbonyl radical; an N-(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical; an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical; an amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; an N-Z-amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; an N-(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; a carboxyl radical; a (C₁-C₆ alkyl)carboxyl radical; a (C₁-C₆ alkyl)sulphonyl radical; an aminosulphonyl radical; an N-Z-aminosulphonyl radical; an N-(C₁-C₆ alkyl)aminosulphonyl radical; an N,N-di(C₁-C₆ alkyl)aminosulphonyl radical; an aminosulphonyl(C₁-C₆ alkyl) radical; an N-Z-aminosulphonyl(C₁-C₆ alkyl) radical; an N-

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(C₁-C₆ alkyl)aminosulphonyl(C₁-C₆ alkyl) radical; an N,N-di(C₁-C₆ alkyl)aminosulphonyl(C₁-C₆ alkyl) radical; a carbamyl radical; an N-(C₁-C₆ alkyl)carbamyl radical; an N,N-di(C₁-C₆ alkyl)carbamyl radical; a carbamyl(C₁-C₆ alkyl) radical; an N-(C₁-C₆ alkyl)carbamyl(C₁-C₆ alkyl) radical; an N,N-di(C₁-C₆ alkyl)carbamyl(C₁-C₆ alkyl) radical; a C₁-C₆ alkyl radical; a hydroxyl radical; a nitro radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; a C₁-C₆ trifluoroalkyl radical; a cyano radical; a group OR₆; a group SR₆; an amino radical; an N-(C₁-C₆ alkyl)amino radical; an N,N-di(C₁-C₆ alkyl)amino radical, wherein the two alkyl substituents may form a ring chosen from 5- and 6-membered rings; an N-hydroxy(C₁-C₆ alkyl)amino radical; an N,N-bis(hydroxy(C₁-C₆ alkyl))amino radical; an N-polyhydroxy(C₂-C₆ alkyl)amino radical; an N,N-bis(polyhydroxy(C₂-C₆ alkyl))amino radical; an amino(C₁-C₆ alkyl)amino radical, in which the terminal amino group is unsubstituted or substituted by one or two C₁-C₆ alkyl radicals, where the alkyl radicals may form a ring chosen from saturated and unsaturated 5- and 6-membered rings; an amino group protected by at least one group chosen from a (C₁-C₆ alkyl)carbonyl, a trifluoro(C₁-C₆ alkyl)carbonyl, an amino(C₁-C₆ alkyl)carbonyl, an N-Z-amino(C₁-C₆ alkyl)carbonyl, an N-(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl, an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical, an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl) formyl radical, and a group Z;

R₆ is chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a group Z; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ carboxyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ carbamylalkyl radical; a C₁-C₆ N-(C₁-C₆

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alkyl)carbamylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-C₆ trifluoroalkyl radical; a C₁-C₆ aminosulphonylalkyl radical; a C₁-C₆ N-Z-aminosulphonylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)aminosulphonylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)aminosulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphanylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carbonylalkyl radical; a C₁-C₆ aminoalkyl radical; a C₁-C₆ aminoalkyl radical whose amine is substituted by one or two radicals chosen from C₁-C₆ alkyl, monohydroxy(C₁-C₆ alkyl), polyhydroxy(C₂-C₆ alkyl), (C₁-C₆ alkyl)carbonyl, formyl, trifluoro(C₁-C₆ alkyl)carbonyl, and (C₁-C₆ alkyl)sulphonyl radicals, and a group Z;

A is chosen from -NR₄R₅ and a hydroxyl radical;

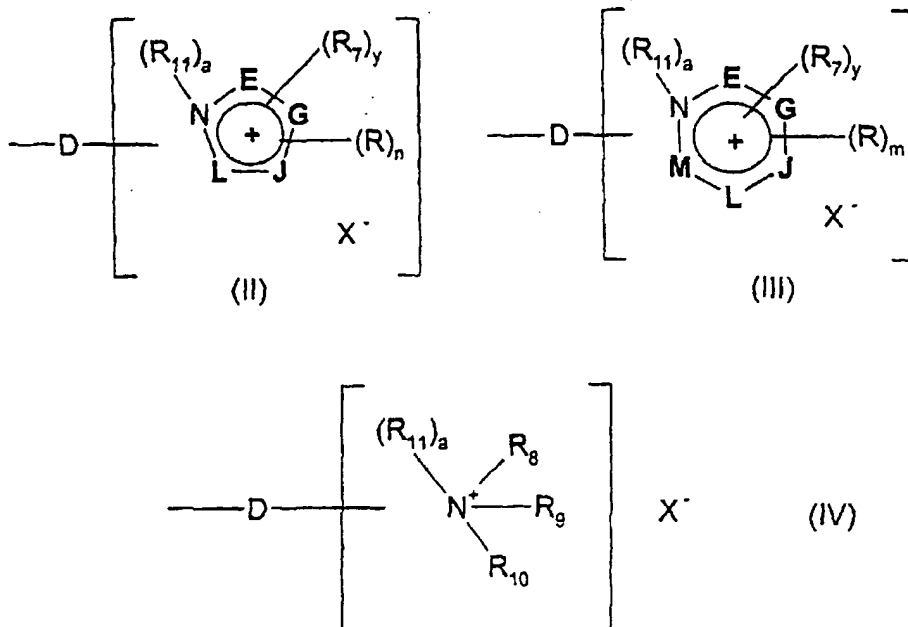
R₄ and R₅, are independently chosen from a hydrogen atom; a group Z; a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ carbamylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-C₆ thiocarbamylalkyl radical; a C₁-C₆ trifluoroalkyl radical; a C₁-C₆ sulphaalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphanylalkyl radical; a C₁-C₆ aminosulphonylalkyl radical; a C₁-C₆ N-Z-aminosulphonylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)-aminosulphonylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)aminosulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carbonylalkyl radical; a C₁-C₆ aminoalkyl radical; and a C₁-C₆ aminoalkyl radical whose amine is substituted by one or two radicals chosen from C₁-C₆ alkyl, C₁-C₆ monohydroxyalkyl, C₂-C₆ polyhydroxyalkyl, (C₁-C₆ alkyl)carbonyl, (C₁-alkyl)sulphonyl, formyl, and trifluoro(C₁-C₆ alkyl)carbonyl radicals, and a group Z;

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wherein one and only one of the radicals R_4 and R_5 may also be chosen from a $(C_1-C_6 \text{ alkyl})\text{carbonyl}$ radical; a formyl radical; a trifluoro $(C_1-C_6 \text{ alkyl})\text{carbonyl}$ radical; an amino $(C_1-C_6 \text{ alkyl})\text{carbonyl}$ radical; an N-Z-amino $(C_1-C_6 \text{ alkyl})\text{carbonyl}$ radical; an N- $(C_1-C_6 \text{ alkyl})\text{amino}(C_1-C_6 \text{ alkyl})\text{carbonyl}$ radical; and an N,N-di $(C_1-C_6 \text{ alkyl})\text{amino}(C_1-C_6 \text{ alkyl})\text{carbonyl}$ radical;

Z is chosen from the unsaturated cationic groups of formulae (II) and (III) below and the saturated cationic groups of formula (IV) below:



in which:

D is a linker which is chosen from linear and branched alkyl chains and may be interrupted by at least one heteroatom atom and may be substituted by at least one of a hydroxyl and a C_1-C_6 alkoxy radical, and may carry at least one ketone function;

the ring members E, G, J, L and M, which are identical or different, are chosen from carbon, oxygen, sulphur and nitrogen atoms;

n is an integer ranging from 0 to 4;

m is an integer ranging from 0 to 5;

the radicals R, which are identical or different, may be chosen from a group Z; a halogen atom; a hydroxyl radical; a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a nitro radical; a cyano radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ alkoxy radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; an amido radical; an aldehydo radical; a carboxyl radical; a C₁-C₆ alkylcarbonyl radical; a thio radical; a C₁-C₆ thioalkyl radical; a (C₁-C₆ alkyl)thio radical; an amino radical; an amino radical protected by a group chosen from (C₁-C₆ alkyl)carbonyl, carbamyl, and (C₁-C₆ alkyl)sulphonyl; and groups NHR" and NR"R'" in which R" and R'", which are identical or different, are chosen from a C₁-C₆ alkyl radical, a C₁-C₆ monohydroxyalkyl radical and a C₂-C₆ polyhydroxyalkyl radical;

R₇ is chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; a carbamyl(C₁-C₆ alkyl) radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a benzyl radical; and a group Z;

R₈, R₉ and R₁₀, which are identical or different, are chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; a C₁-C₆ cyanoalkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ amidoalkyl radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; and a C₁-C₆ aminoalkyl radical whose amine is protected by at least one of a (C₁-C₆ alkyl)carbonyl, amido, carboxyl and (C₁-C₆ alkyl)sulphonyl radical;

two of the radicals R₈, R₉ and R₁₀ may form, together with the nitrogen to which they are attached, a ring chosen from saturated 5- and 6-membered carbon-containing

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By rings which may contain at least one heteroatom, wherein said rings may contain a substituent chosen from a halogen atom; a hydroxyl radical; a C₁-C₆ alkyl radical, a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a nitro radical; a cyano radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ alkoxy radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; an amido radical; an aldehydo radical; a carboxyl radical; a C₁-C₆ ketoalkyl radical; a thio radical; a C₁-C₆ thioalkyl radical; a (C₁-C₆ alkyl)thio radical; an amino radical; and an amino radical protected by a group chosen from (C₁-C₆ alkyl)carbonyl; carbamyl and (C₁-C₆ alkyl)sulphonyl radical;

one of the radicals R₈, R₉ and R₁₀ may be chosen from a second group Z, identical to or different from the first group Z;

R₁₁ may be chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ aminoalkyl radical; a C₁-C₆ aminoalkyl radical whose amine is protected by at least one of a (C₁-C₆ alkyl)carbonyl, a carbamyl, and a (C₁-C₆ alkyl)sulphonyl radical; a C₁-C₆ carboxyalkyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ carbamylalkyl radical; a C₁-C₆ trifluoroalkyl radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; a C₁-C₆ sulphonamidoalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphinylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)ketoalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)carbamylalkyl radical; and a C₁-C₆ N-(C₁-C₆ alkyl)sulphonamidoalkyl radical;

a and y are integers equal to 0 or 1; with the following conditions:

- in the unsaturated cationic groups of formula (II):
- when a = 0, the linker D is attached to the nitrogen atom,

- when $a = 1$, the linker D is attached to one of the ring members E, G, J or L,
- y can adopt the value 1 only
 - 1) when the ring members E, G, J and L are simultaneously a carbon atom and when the radical R_7 is carried by the nitrogen atom of the unsaturated ring; or
 - 2) when at least one of the ring members E, G, J and L is chosen from a nitrogen atom to which the radical R_7 is attached;
- in the unsaturated cationic groups of formula (III):
 - when $a = 0$, the linker D is attached to the nitrogen atom,
 - when $a = 1$, the linker D is attached to one of the ring members E, G, J, L or M,
 - y can adopt the value 1 only
 - 1) when at least one of the ring members E, G, J, L and M is chosen from a divalent atom and
 - 2) when the radical R_7 is carried by the nitrogen atom of the unsaturated ring;
- in the saturated cationic groups of formula (IV):
 - when $a = 0$, then the linker D is attached to the nitrogen atom which carries the radicals R_8 to R_{10} ,
 - when $a = 1$, then two of the radicals R_8 to R_{10} , together with the nitrogen atom to which they are attached, form a ring chosen from

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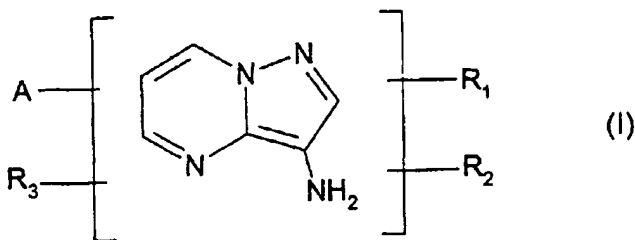
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5- and 6-membered saturated rings, and the linker D is carried by
a carbon atom of the said ring;

X⁻ is chosen from monovalent and divalent anions;

cont with the proviso that at least one of R₁, R₂ and R₃ is a group Z.

33/ 55. (Amended) A multi-compartment dyeing kit comprising at least two
compartments, wherein a first compartment contains a dyeing composition and a
second compartment contains an oxidizing composition,

wherein said dyeing composition comprises, in a medium suitable for dyeing, at
least one oxidation base chosen from compounds of formula (I) and acid addition salts
thereof:



in which:

R₁, R₂ and R₃, which may be identical or different, are each chosen from a
hydrogen atom; a halogen atom; a group Z; a (C₁-C₆ alkyl)carbonyl radical; an
amino(C₁-C₆ alkyl)carbonyl radical; an N-Z-amino(C₁-C₆ alkyl)carbonyl radical; an N-(C₁-
C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical; an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆
alkyl)carbonyl radical; an amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; an N-Z-
amino(C₁-C₆ alkyl)carbonyl(C₁-C₆ alkyl) radical; an N-(C₁-C₆ alkyl)amino(C₁-C₆
alkyl)carbonyl(C₁-C₆ alkyl) radical; an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl(C₁-

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C₆ alkyl) radical; a carboxyl radical; a (C₁-C₆ alkyl)carboxyl radical; a (C₁-C₆ alkyl)sulphonyl radical; an aminosulphonyl radical; an N-Z-aminosulphonyl radical; an N-(C₁-C₆ alkyl)aminosulphonyl radical; an N,N-di(C₁-C₆ alkyl)aminosulphonyl radical; an aminosulphonyl(C₁-C₆ alkyl) radical; an N-Z-aminosulphonyl(C₁-C₆ alkyl) radical; an N-(C₁-C₆ alkyl)aminosulphonyl(C₁-C₆ alkyl) radical; an N,N-di(C₁-C₆ alkyl)aminosulphonyl(C₁-C₆ alkyl) radical; a carbamyl radical; an N-(C₁-C₆ alkyl)carbamyl radical; an N,N-di(C₁-C₆ alkyl)carbamyl radical; a carbamyl(C₁-C₆ alkyl) radical; an N-(C₁-C₆ alkyl)carbamyl(C₁-C₆ alkyl) radical; an N,N-di(C₁-C₆ alkyl)carbamyl(C₁-C₆ alkyl) radical; a C₁-C₆ alkyl radical; a hydroxyl radical; a nitro radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; a C₁-C₆ trifluoroalkyl radical; a cyano radical; a group OR₆; a group SR₆; an amino radical; an N-(C₁-C₆ alkyl)amino radical; an N,N-di(C₁-C₆ alkyl)amino radical, wherein the two alkyl substituents may form a ring chosen from 5- and 6-membered rings; an N-hydroxy(C₁-C₆ alkyl)amino radical; an N,N-bis(hydroxy(C₁-C₆ alkyl))amino radical; an N-polyhydroxy(C₂-C₆ alkyl)amino radical; an N,N-bis(polyhydroxy(C₂-C₆ alkyl))amino radical; an amino(C₁-C₆ alkyl)amino radical, in which the terminal amino group is unsubstituted or substituted by one or two C₁-C₆ alkyl radicals, where the alkyl radicals may form a ring chosen from saturated and unsaturated 5- and 6-membered rings; an amino group protected by at least one group chosen from a (C₁-C₆ alkyl)carbonyl, a trifluoro(C₁-C₆ alkyl)carbonyl, an amino(C₁-C₆ alkyl)carbonyl, an N-Z-amino(C₁-C₆ alkyl)carbonyl, an N-(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl, an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical, an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl) formyl radical, and a group Z;

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R₆ is chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a group Z; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ carboxyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ carbamylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-C₆ trifluoroalkyl radical; a C₁-C₆ aminosulphonylalkyl radical; a C₁-C₆ N-Z-aminosulphonylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)aminosulphonylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)aminosulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphanylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carbonylalkyl radical; a C₁-C₆ aminoalkyl radical; a C₁-C₆ aminoalkyl radical whose amine is substituted by one or two radicals chosen from C₁-C₆ alkyl, monohydroxy(C₁-C₆ alkyl), polyhydroxy(C₂-C₆ alkyl), (C₁-C₆ alkyl)carbonyl, formyl, trifluoro(C₁-C₆ alkyl)carbonyl, and (C₁-C₆ alkyl)sulphonyl radicals, and a group Z;

A is chosen from -NR₄R₅ and a hydroxyl radical;

R₄ and R₅, are independently chosen from a hydrogen atom; a group Z; a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ carbamylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)carbamylalkyl radical; a C₁-C₆ thiocarbamylalkyl radical; a C₁-C₆ trifluoroalkyl radical; a C₁-C₆ sulphoalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphanylalkyl radical; a C₁-C₆ aminosulphonylalkyl radical; a C₁-C₆ N-Z-aminosulphonylalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)-aminosulphonylalkyl radical; a C₁-C₆ N,N-di(C₁-C₆ alkyl)aminosulphonylalkyl radical; a C₁-C₆ (C₁-C₆

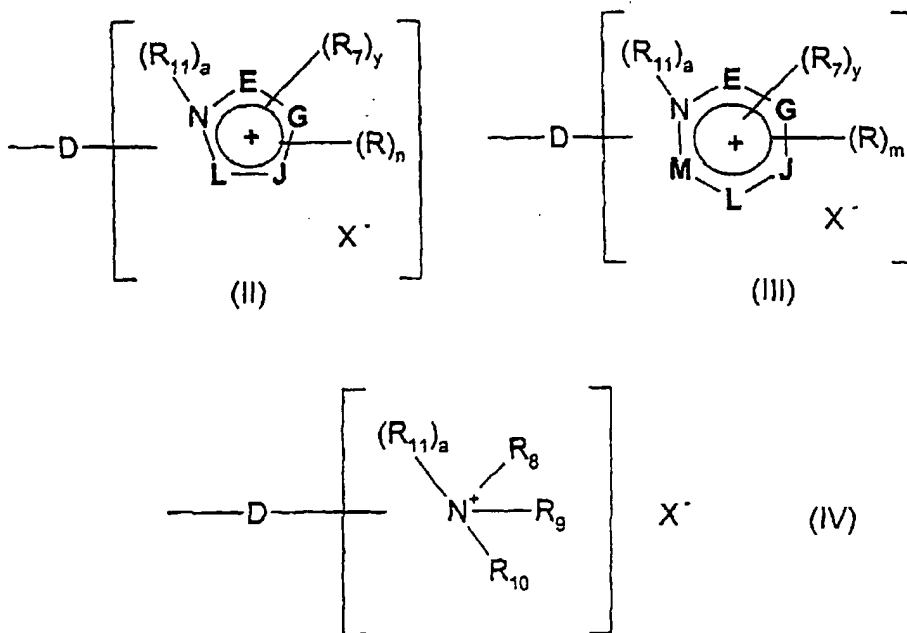
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alkyl)carbonylalkyl radical; a C₁-C₆ aminoalkyl radical; and a C₁-C₆ aminoalkyl radical whose amine is substituted by one or two radicals chosen from C₁-C₆ alkyl, C₁-C₆ monohydroxyalkyl, C₂-C₆ polyhydroxyalkyl, (C₁-C₆ alkyl)carbonyl, (C₁-alkyl)sulphonyl, formyl, and trifluoro(C₁-C₆ alkyl)carbonyl radicals, and a group Z;

wherein one and only one of the radicals R₄ and R₅ may also be chosen from a (C₁-C₆ alkyl)carbonyl radical; a formyl radical; a trifluoro(C₁-C₆ alkyl)carbonyl radical; an amino(C₁-C₆ alkyl)carbonyl radical; an N-Z-amino(C₁-C₆ alkyl)carbonyl radical; an N-(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical; and an N,N-di(C₁-C₆ alkyl)amino(C₁-C₆ alkyl)carbonyl radical;

Z is chosen from the unsaturated cationic groups of formulae (II) and (III) below and the saturated cationic groups of formula (IV) below:



in which:

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D is a linker which is chosen from linear and branched alkyl chains and may be interrupted by at least one heteroatom atom and may be substituted by at least one of a hydroxyl and a C₁-C₆ alkoxy radical, and may carry at least one ketone function;

the ring members E, G, J, L and M, which are identical or different, are chosen from carbon, oxygen, sulphur and nitrogen atoms;

n is an integer ranging from 0 to 4;

m is an integer ranging from 0 to 5;

the radicals R, which are identical or different, may be chosen from a group Z; a halogen atom; a hydroxyl radical; a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a nitro radical; a cyano radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ alkoxy radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; an amido radical; an aldehydo radical; a carboxyl radical; a C₁-C₆ alkylcarbonyl radical; a thio radical; a C₁-C₆ thioalkyl radical; a (C₁-C₆ alkyl)thio radical; an amino radical; an amino radical protected by a group chosen from (C₁-C₆ alkyl)carbonyl, carbamyl, and (C₁-C₆ alkyl)sulphonyl; and groups NHR" and NR"R" in which R" and R"', which are identical or different, are chosen from a C₁-C₆ alkyl radical, a C₁-C₆ monohydroxyalkyl radical and a C₂-C₆ polyhydroxyalkyl radical;

R₇ is chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; a C₁-C₆ (C₁-C₆ alkoxy)alkyl radical; a carbamyl(C₁-C₆ alkyl) radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a benzyl radical; and a group Z;

R₈, R₉ and R₁₀, which are identical or different, are chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a C₁-C₆ (C₁-

C₆ alkoxy)alkyl radical; a C₁-C₆ cyanoalkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ amidoalkyl radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; and a C₁-C₆ aminoalkyl radical whose amine is protected by at least one of a (C₁-C₆ alkyl)carbonyl, amido, carboxyl and (C₁-C₆ alkyl)sulphonyl radical;

two of the radicals R₈, R₉ and R₁₀ may form, together with the nitrogen to which they are attached, a ring chosen from saturated 5- and 6-membered carbon-containing rings which may contain at least one heteroatom, wherein said rings may contain a substituent chosen from a halogen atom; a hydroxyl radical; a C₁-C₆ alkyl radical, a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; a nitro radical; a cyano radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ alkoxy radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; an amido radical; an aldehydo radical; a carboxyl radical; a C₁-C₆ ketoalkyl radical; a thio radical; a C₁-C₆ thioalkyl radical; a (C₁-C₆ alkyl)thio radical; an amino radical; and an amino radical protected by a group chosen from (C₁-C₆ alkyl)carbonyl; carbamyl and (C₁-C₆ alkyl)sulphonyl radical;

one of the radicals R₈, R₉ and R₁₀ may be chosen from a second group Z, identical to or different from the first group Z;

R₁₁ may be chosen from a C₁-C₆ alkyl radical; a C₁-C₆ monohydroxyalkyl radical; a C₂-C₆ polyhydroxyalkyl radical; an aryl radical; a benzyl radical; a C₁-C₆ aminoalkyl radical; a C₁-C₆ aminoalkyl radical whose amine is protected by at least one of a (C₁-C₆ alkyl)carbonyl, a carbamyl, and a (C₁-C₆ alkyl)sulphonyl radical; a C₁-C₆ carboxyalkyl radical; a C₁-C₆ cyanoalkyl radical; a C₁-C₆ carbamylalkyl radical; a C₁-C₆ trifluoroalkyl radical; a C₁-C₆ tri(C₁-C₆ alkyl)silanealkyl radical; a C₁-C₆ sulphonamidoalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)carboxyalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)sulphinyllalkyl radical; a C₁-

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C₆ (C₁-C₆ alkyl)sulphonylalkyl radical; a C₁-C₆ (C₁-C₆ alkyl)ketoalkyl radical; a C₁-C₆ N-(C₁-C₆ alkyl)carbamylalkyl radical; and a C₁-C₆ N-(C₁-C₆ alkyl)sulphonamidoalkyl radical;

a and y are integers equal to 0 or 1; with the following conditions:

- in the unsaturated cationic groups of formula (II):
 - when a = 0, the linker D is attached to the nitrogen atom,
 - when a = 1, the linker D is attached to one of the ring members E, G, J or L,
 - y can adopt the value 1 only
 - 1) when the ring members E, G, J and L are simultaneously a carbon atom and when the radical R₇ is carried by the nitrogen atom of the unsaturated ring; or
 - 2) when at least one of the ring members E, G, J and L is chosen from a nitrogen atom to which the radical R₇ is attached;
- in the unsaturated cationic groups of formula (III):
 - when a = 0, the linker D is attached to the nitrogen atom,
 - when a = 1, the linker D is attached to one of the ring members E, G, J, L or M,
 - y can adopt the value 1 only
 - 1) when at least one of the ring members E, G, J, L and M is chosen from a divalent atom and
 - 2) when the radical R₇ is carried by the nitrogen atom of the unsaturated ring;
- in the saturated cationic groups of formula (IV):

B\$
Cont

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- when $a = 0$, then the linker D is attached to the nitrogen atom which carries the radicals R_8 to R_{10} ,
 - when $a = 1$, then two of the radicals R_8 to R_{10} , together with the nitrogen atom to which they are attached, form a ring chosen from 5- and 6-membered saturated rings, and the linker D is carried by a carbon atom of the said ring;

X^- is chosen from monovalent and divalent anions;

with the proviso that at least one of R_1 , R_2 and R_3 is a group Z.

REMARKS

Claims 23 - 55 are currently pending in this application. Claims 23, 31, 35, 52, and 55 have been amended by this response. The amendments merely correct some typographical errors in the claims and do not constitute new matter or narrowing amendments. As it is believed the amendments place the claims in condition for allowance, reconsideration of the claim objections is respectfully requested.

Claims 23, 35, 52, and 55 have been amended to address the concerns raised by the Examiner in the Office Action mailed July 2, 2002. The Examiner noted that the phrase "a C_1 - C_6 aminoalkyl radical" appeared in duplicate in the claims. These duplicate entries were actually intended to be separate members of the Markush Group, and a semi-colon has been inserted to clarify that recitation. The claims now recite the aminoalkyl radical and the aminoalkyl radical with the recited substitutions. In addition, the "C" cited by the Examiner as confusing, has been removed since it was a

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